Claims

1. A process for preparing a warm mix asphalt composition comprising mixing a grained aggregate material with a soft binder, and adding a foamed hard binder to said mixture of grained aggregate material and soft binder.

2. The process according to claim 1, characterised by using a hard binder component with a penetration less than 100 dmm (measured according to ASTM D 5 at 25°C) .

3. The process according to claim 1, characterised by using a soft binder component with a penetration of less than 0.3 Pa.s at 100°C (measured according to ASTM D 2171 at 100°C).

4. The process according to claim 1, characterised by heating the aggregate to 60°C -120°C before mixing it with the soft and the hard binder.

5. The process according to claim 1, wherein the foamed hard binder is made in a separate foaming process characterised by the steps of:
heating unfoamed hard binder to a temperature between 130 and 180 °C;
providing water at a temperature between 5 - 80 °C ;and
injecting 2-7% by weight water into said heated unfoamed hard binder to expand said heated unfoamed hard binder to a foam.

6. The process according to claim 1, characterised by using a foam with a water content of 5 % or less.

7. The process according to claim 1, characterised by adding the soft binder component to the aggregate at a temperature of less than 120°C.

8. The process according to claim 1, characterised by the temperature of the warm mix being in the range of 80°C to 115 °C after mixing.

9. The process according to claim 1, characterised by using a dense graded asphalt composition as the warm mix asphalt composition.

10. The process according to claim 9, characterised by using a dense graded asphalt composition with a void content between 2% and 10 % as the warm mix asphalt composition.

11. The process according to claim 1, characterised by using an open graded asphalt composition as the warm mix asphalt composition.

12. The process according to claim 11, characterised by using an open graded asphalt composition with a void content between 14% and 26% as the the warm mix asphalt composition.

13. The process according to claim 1, wherein the soft binder and the aggregate material is premixed in a warm process mixing facility to a semi-finished product for transferral to an asphalt laying site whereupon a foamed hard binder is applied to the semi-finished product in a production laying machine at the asphalt laying site.

14. The process according to any of the preceding claim, characterised by using bitumen components as the binder components.

15. Use of the asphalt composition as prepared by a process according to any of the preceding claims for paving applications.

16. A system for preparing the warm mix asphalt composition of claim 1, comprising a drying drum for heating and drying the aggregate component, a

mixing mill for mixing the asphalts components and a mix storage silo, characterised by the system further including foam production facilities for foaming the hard binder before introduction to the mixing mill.

17. The system according to claim 16, characterised by the foam production facilities comprising heating means for heating the hard binder component and water or steam introducing elements for subsequent introduction of water to the hard binder to produce a foam.